

to digest. In proportion as the fibres separate themselves in this manner lengthwise, they also fall into pieces transversely, and assume the appearance of having been cut with a sharp instrument. The pieces of muscle are also at first so sharply edged, and for the most part remain so during their continuance in the stomach. In the duodenum, however, their edges become rounded, and the pieces appear to dissolve gradually, like a crystal in water, till at last a very small part only is left. The chyme in which they are found has a fine granular appearance.

The solution of boiled fish in the stomach of the cat takes place somewhat differently. The muscular fibres of fish are much larger than those of the mammalia and birds; they have also fewer articulations, and are more angular. They are strongly marked with longitudinal lines. These longitudinal lines are sometimes also to be seen in the muscular fibres of the mammalia; and, on the other hand, the transverse may be seen in the fibres of fish, though both cases happen but seldom. In the stomach of the cat, the fibres of fish separate themselves lengthwise from one another, and first appear with broken edges. The further solution, however, is quite peculiar. At first, large transverse fissures, which often go as far as the middle, arise at the sides, at which the fibres gradually fall into smaller pieces. The fibres now begin to dissolve at the end, and in the direction of the longitudinal lines, into sets of large globules, which gradually separate from one another, and in this condition may be afterwards found in the chyme.

EXP. 13.—After I had obtained from the manner of the solution of the mammalia fibres, a sign of the degree of perfection of the digestion, I wished to know whether the disturbance of the digestion, which I had experienced in myself from drinking coffee after meals, could be explained by experiments upon dogs. I therefore gave a dog a little coffee, with milk, directly after he had eaten several large pieces of meat. He was killed six hours after, and I found that the digestion had been delayed longer than usual; but in the manner of the solution of the muscular fibres, I perceived no remarkable difference. I now conjectured that the coffee was absorbed from the stomach, and that afterwards the digestion proceeded in its regular course. I therefore fed a dog with meat chopped very small, and gave him a little coffee, half an hour after. I killed him four hours after, and found that the greater part of the meat had gone over into the intestines, but little or not at all altered, and also that the unchanged fibres of meat, that could therefore have been little digested, were to be seen as far as the cæcum. In these the microscope could detect but few traces of solution although in general the fleshy fibres disappear entirely below the ilium.—*Lancet*, Nov. 16, 1829.

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#### PATHOLOGICAL ANATOMY AND GENERAL PATHOLOGY.

4. *On Diuresis as a Revulsive action in Diseases of Infants.*—Dr. SIMON prefaces his remarks by alluding to the frequent inactivity, and sometimes the almost complete suspension, of the functions of the bowels and kidneys, while the system of the child is suffering severely from dentition. Whenever the intestinal or urinary excretion is much diminished, the febrile irritation of the system, it is well known, is invariably greater than usual; and if this state of things be permitted to continue without relief, there is much risk of alarming cerebral symptoms quickly making their appearance. The practitioner will therefore do well to pay particular and uniform attention to the condition of the bowels and kidneys in all diseases of infancy and childhood. The simple question as to the quantity and colour of the urine—and by the bye we can much better trust the report of nurses about the state of the urine than we can about that of the alvine evacuations—will often enable us at once to form a correct opinion as to the general or constitutional health of our patient. As long as the kidneys act freely, there is little or no risk in the symptoms of mere denti-

tion, however severe and distressing these may be. The same remark is, we believe, strictly applicable to the prognosis of most cerebral affections in children. When the urinary secretion is scanty and deep-coloured, the circulation seems to be both oppressed and excited; and the rapid, on some occasions almost instantaneous, mitigation of the alarming symptoms after a copious discharge of water is well known to all experienced practitioners. To promote this critical diuresis, a purgative composed of senna and salts, and then frequently repeated doses of nitre,\* are the simplest and most efficient means that can be resorted to.

The chief danger of dentition is referrible to the vascular excitement of the brain. Nor is this wonderful; when we consider that for several successive months there is a continued, and often very severe, irritation in its immediate neighbourhood. The pain attendant upon the cutting of merely one tooth, in our adult years, may teach us to form some idea of the suffering of an infant during the period of its first dentition.

Now it is a common observation that almost all headaches are most promptly relieved by whatever stimulates the kidneys to throw off a quantity of urine. When this takes place the system feels at once relieved of a load or oppression which seemed to clog all its energies, and the mind as well as the body becomes more light and vivacious. We are thus led by the experience of our own feelings to anticipate the benefits which must attend the stimulation of the kidneys in the various affections of children arising from teething.

On the whole, we do not think that there is a more important sign to be attended to in the management of children, during the first two years of their life, than that afforded by the state of the urinary secretion. If nurses and mothers were better aware of this simple, but most valuable suggestion, the life of many an infant might be saved; for disease would often be detected in its earliest stage, and then might certainly be arrested by the administration of appropriate means. With regard to medical men, we strongly counsel them to make it an invariable rule in their practice to inquire into the state of the urine. As we have already hinted, we can more generally depend upon the reports of mothers and nurses as to the appearances and condition of the urine than of the alvine evacuations, in those cases where we cannot examine the excretions for ourselves.

Nothing will more contribute to relieve the system of the feverish irritation, under which the system of a child suffers during dentition, than a copious diuresis. We should bear in mind, too, that independently of the excitement arising from this cause, there is naturally and necessarily a tendency to over action of the blood vessels in the head during the first year or two of life. The brain, it is well known, is larger then in proportion to other parts of the body than in after years; all the senses are, probably, more acute, the mind as well as the body is rapidly growing, and perhaps scarcely a day passes over without there being made some addition or another to the store of infantine perceptions and ideas. We cannot wonder then that the simultaneous developement of so many organs and new faculties should have a powerful influence on the physiological and pathological phenomena which characterize this period of life. To refer all to the excitement arising from the evolution of the teeth, is to take a very partial, and therefore an erroneous, view of this important question. A valuable therapeutic principle is suggested by these considerations; and it is this: that in the treatment of many diseases of infancy we have rather to *regularise* than directly to *check* or *overcome*; and therefore that we should most attentively examine the condition of all the functions of the body, in order that we may discover the direction or sense, so to speak, in which nature's efforts are working, and be enabled to assist her in these efforts.

\* Some practitioners are in the habit of adding minute doses of digitalis to the diuretic mixture; and seemingly with good effects. The following formula will be found to answer well. R. Potasse nitratis 3ij; Aque m. viridis 3ijss; Syrupi croci 3ij.—Vini antimonialis 3iss; Tinet. digitalis 11xvj. M. A tablespoonful to be given every two or three hours.

Before closing these remarks, we may very briefly allude to the notable effects which diuretic medicines sometimes exert on the progress of hooping-cough. The administration of nitred drinks and of minute doses of digitalis\* seems often to promote the crisis of the disorder in its earlier stages; and in its more advanced and chronic form, the use of tincture of cantharides has been recommended by Dr. Watts and others, as one of the most efficient antidotes.† The excitement of the urinary viscera produces a powerful revulsion on the neurosthenic condition of the gastro-pulmonary apparatus, and thus seems to act as a derivative of the morbid action.

In fine, the kidneys become, in numerous cases of disease, the seat of an active eliminatory process, of which the skilful physician will avail himself in the treatment of dentition and of various other affections to which children are especially liable during the first two years of life. *Medico-Chirurgical Review*, from *Bulletin Gén. de Thérapeutique*, May 1839.

**5. Remarkable Tendency to Hemorrhage in a Family.** By Dr. Du Bois, of Neuchâtel.—This affection, which consists of an extreme fluidity of the blood, or a weakness of the capillary vessels, which are ruptured by the slightest violence, and have but little contractile power, is not uncommon in the west of Germany, and in the Rhenish provinces. It is hereditary in a striking degree; though only males are affected by it, to whom it is frequently transmitted by their mother, who is free from its influence. In some families scarcely a single male arrives at maturity, from this cause; and the person thus diseased bears the significant name of *Bluter* or Bleeder.

A robust gardener of Neuchâtel married a stout, healthy woman from Nassau, in whose family, according to her account, no Bluter had been known. By her he had a family, consisting of five boys, and one girl who never exhibited any symptoms of this complaint, and died in convulsions when three years of age. Of the five boys, one died of convulsions on the day of his birth; three died of hemorrhage; and the last, now seven years old, will probably soon follow his brothers, from the same cause. The symptoms exhibited the following course in all. A fortnight after birth, which was natural, ecchymoses began to appear in different parts of their bodies, spontaneously, or from the slightest pressure, and slowly disappeared, leaving a yellow tint behind them. About the end of the first year, but especially after the third, they were seized with violent epistaxis. The slightest puncture caused a great loss of blood; coughing produced hæmoptysis, and diarrhoea bloody stools in clots. The fourth bit his tongue at play, and died in a few days from the hemorrhage, which it was impossible to restrain. All were subject to frequent attacks of pain and swelling, with ecchymosis of the wrist, ankles, and knee-joints, attended with fever; the complaint usually lasted about a fortnight, and then disappeared with the subsidence of the swelling and removal of the ecchymosis. On one occasion, two leeches were incautiously applied to the knee of the eldest, the bites of which continued to bleed for three days, and were only stopped by the twisted suture. Except varicella, which the survivor has had, none of the others were attacked by infantile diseases, though prevalent in the neighbourhood. Dentition took place pretty early, and in a healthy manner. A tendency to diarrhoea, that was followed by bloody evacuations, was the sole affection of the organs of digestion to which they were liable. Their complexions were fair, with clear blue or brown eyes, and a skin remarkably fine and white. Their gums were always firm, and they never had ulcerations of the mouth or skin. Their intelligence was quite conformable to their age. Their urine was usually clear and limpid, but they had great tendency to perspire. The eldest died of epistaxis, at the

\* Dr. Simon recommends the external use of tincture of digitalis rubbed, as a liniment, on the abdomen.

† A favourite formula of some physicians in certain chronic cases of hooping-cough is the following:—R. Tinct. cinchonæ  $\frac{3}{ij}$ ; Tinct. lyttæ  $\frac{3}{j}$ ; Tinct. camphoræ comp.  $\frac{3}{ij}$ ; Mist. Camphor.  $\frac{3}{ij}$ ; M. Capiat coch. j. magnum ter in dies.